



MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2015 / 2016

BSH3044 – OCCUPATIONAL SAFETY AND HEALTH (All sections / Groups)

7th OCTOBER 2015
9.00 a.m – 11.00 a.m
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of **FIVE (5)** pages with **TWO (2)** sections only.
2. Section A: **ONE (1)** Case Study. Attempt **ALL** questions.
Section B: **FOUR (4)** Structural Questions. Attempt **THREE (3)** questions.
3. Please write all your answers in the answer booklet provided.

SECTION A: CASE STUDY (40 marks)**Auto Parts Manufacturing (APM) Corporation**

In May 1994, David was hired as the Chief Operating Officer at Auto Parts Manufacturing Corporation (APM) in Lutesville, Missouri. When interviewing for the position, he was very excited about the opportunity, but then in his first week of work he was beginning to have some serious concerns. APM manufactured motor vehicle exhaust system parts and manifolds to sell to original equipment manufacturers in the automotive industry. The president, Michael Sawyer, along with several other former managers bought the company from its founders in 1988, and the officers and directors owned 100% of the capital stock. Sales at the company had grown steadily from \$11.5 million in 1988 to \$23 million in 1992 to \$100 million in 1994, and APM was projected to be the fourth largest privately owned company in the Lutesville area within two years. In addition to the Lutesville factory (110,000 square feet), they also had factories in Kentucky (120,000 square feet) and Saverton, OH (120,000 square feet).

David was initially thrilled to join this fast growing, successful company. As he began his new job, however, he discovered that many of the temporary workers were being injured on the job, and one local temp service Help "When You Need It" stopped providing workers in 1990 because of the questionable safety environment. In an attempt to determine the causes for so many injuries, David reviewed the company safety manual originally developed in November 1992. The safety program required machine guarding on all machines, including a requirement that supervisors conduct daily inspections of their production lines to ensure safety guards and devices were in place and working properly. It insisted on a detailed dress code to prevent any unnecessary exposure to hazards, and it provided for a progressive discipline program up to and including discharge for employees who violated the safety practices.

In questioning the supervisors at the site about the number of accidents, the general consensus was that the primary driver was the quality of the employees. For example, earlier in May, there was a major drug bust of employees dealing drugs primarily during the nightshift. There were many anecdotes where people would come to work in the morning and not come back in the afternoon, and several people that David talked to felt that the employees were staging accidents to collect worker compensation. David tried to discuss this with Sawyer, the company president, but had not been able to schedule a meeting yet due to the president's busy calendar. David contemplated what he should do next.

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After further research, David determined that the level of training provided to the temporary workers was woefully inadequate. Supervisors that he interviewed admitted that they only showed employees how to run a few parts on a machine and then watched them for 15 to 20 minutes. Employee interviews established that most operators had either received no training or only received 15-20 minutes of "hands-on" training by a supervisor. Even Sawyer, APM's president, told the Lutesville Town Crier, that "We train like crazy for a time and then we get caught in a spurt of growth and we don't have time to train again." For reference, the Occupational Safety and Health Administration (OSHA) recommended 8 hours to 2 weeks of training for the metal-working industry, depending on the complexity of the equipment and the operator's experience. In addition, the turnover of employees at APM was a problem.

Before David could do anything to remediate this situation, in June 1994, OSHA initiated a comprehensive safety inspection of the factory as a result of the high rate of injuries occurring at the establishment. In addition, a health inspection occurred based on a referral regarding noise in the plant and inadequate ventilation for welders. The investigation was the result of a referral that the Cincinnati area office of OSHA received on May 26, 1994 from a doctor at St. Luke's, the local hospital. The doctor was concerned about the number of injuries and stated that the hospital had been treating 2-6 people a day with injuries from APM.

On December 12, 1994, OSHA imposed four wilful violations with \$120,000 in proposed fines for inadequate injury and illness recordkeeping. In February 1995, OSHA imposed an additional \$1.205 million in proposed fines for wilful violations in which the company allegedly intentionally ignored OSHA regulations, and \$52,500 in proposed fines for serious violations where a serious violation is defined as "a situation in which there is substantial probability that death or serious physical harm could result and the employer knew or should have known of the hazard."

The willful violations addressed the company's alleged failure to train employees on the safe operation of equipment, to provide fall protection and to adequately guard points of operation on numerous pieces of equipment. (In the case of fall protection, employees were trained by a foreman to crawl on top of storage boxes to check for inventory with no fall protection in use). The company was also accused of failing to provide a safe means of egress, an effective hearing conservation program, arm and hand protection, and personal protective equipment. Serious violations included permitting machines to operate without proper safety guards, storing unlabelled containers on site and failing to maintain electrical equipment.

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Reviewing the historical injury data, APM represented 7 lost workday cases with 57 recordable injuries for 1993. Records verification by OSHA revealed at a minimum, 67 lost workday cases with 160 recordable injuries for 1993. For January-June 1994, APM represented 23 lost workday cases with 45 recordable injuries. Records verification revealed at a minimum, 211 lost workday cases with 290 recordable injuries through December 21, 1994. Thus, updated information for January 1993 to December 21, 1994 showed 450 injuries including 9 amputations, 54 smashed injuries, 16 broken bones, 73 lacerations, 37 back injuries, and 56 flash burns. David was perplexed as to how the situation could have gotten so bad and was wondering what he should do next.

(Adapted from: https://www.osha.gov/dcsp/success_stories/compliance_assistance/abbott/auto_parts.html)

QUESTIONS

- (a) Based from the case above, explain **FIVE (5)** major occupational safety and health concerns that Mr. David found as the newly appointed Chief Operating Officer in Auto Parts Manufacturing Corporation. (10 marks)
- (b) Discuss **TEN (10)** ways where Mr. David could implement to reduce workplace injuries in Auto Parts Manufacturing Corporation. (20 marks)
- (c) Discuss **FIVE (5)** characteristics of designing an effective safety signage in support of reducing workplace injuries for Auto Parts Manufacturing Corporation. (10 marks)

(Total: 40 marks)

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SECTION B: STRUCTURED QUESTIONS (60 marks)**Choose THREE (3) questions only.****QUESTION 1**

(a) Explain **FIVE (5)** steps to follow in conducting accident investigation. (10 marks)

(b) Despite of Occupational Safety and Health awareness and reporting specifications, certain organizations possibly majority of them failed to report of recorded incidents.

Discuss **FIVE (5)** reasons why some accidents are not reported.

(10 marks)

(Total: 20 marks)

QUESTION 2

Your organization has just purchased a huge state-of-the-art printing machine to boost up the company's production so that it will meet with customer's demand. Being appointed as Occupational Safety Officer in the company, you will need to design a **FIVE (5)** steps involved in implementing hazard control methods for workers.

(20 marks)

(Total: 20 marks)

QUESTION 3

Observing the workplace can help determine the amount of exposure that employees have towards the factors associated with Cumulative Trauma Disorder (CTD) & potential for ergonomics - related problems.

Explain **FOUR (4)** early indicators of ergonomics-related problems shown by employees. (20 marks)

(Total: 20 marks)

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QUESTION 4

One of the best ways to promote safety is to design it into the tools, machines, and technologies with which people interact in the workplace. Safety committees are one of ways in providing a formal structure through which employees & management can funnel concerns & suggestions about safety/health issues.

(a) Discuss **FIVE (5)** Do's and Don'ts that must be applied to all safety committees. (10 marks)

(b) From your opinion, how persuasion skills can be one of the effective tools in promoting safety among workers. (10 marks)

(Total: 20 marks)

End of Paper